END SEMESTER EXAMINATION MAY-2023

Course Name: - B.Tech **Semester:- 4th**

Paper Name: - DBMS **Paper Code:- TCS- 403**

Time - 3 Hrs + 20 minutes per hour extra time for V.I. & examinees with writer. **Max Marks-70**

समय– 3 घण्टे + 20 मिनट प्रति घंटे अतिरिक्त–दृष्टिबाधित एवं सह लेखक परीक्षार्थियों के लिए। अधिकतम अंक–70

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries 3 mark. All questions are compulsory.
- Section B- Answer any 5 out of 6 given questions in maximum hundred (150) words. Each question carries 7 marks.
- Section C- Answer any 2 out of 3 given questions in maximum five hundred (500) words. Each question carries 10 marks.

निर्देश:

- प्रश्न पत्र में तीन खण्ड अ, ब, व स हैं। सभी खण्ड अनिवार्य हैं।
- खण्ड–अ में प्रत्येक प्रश्न तीन अंक का है। सभी प्रश्न अनिवार्य हैं।
- खण्ड–ब में छः प्रश्नों में से किन्हीं पाँच प्रश्नों के उत्तर अधिकतम 150 शब्दों में दें। प्रत्येक प्रश्न सात अंक का है।
- खण्ड–स में तीन प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर अधिकतम (300) शब्दों में दें। प्रत्येक प्रश्न 10 अंक का है।

Section – A (खण्ड–अ)

Objective Questions(वस्तुनिष्ठ प्रश्न)

1. Answer all the following questions. **5×3 =15**

निम्नलिखित सभी प्रश्न अनिवार्य हैं।

i) In general, a file is basically a collection of all related_____.
   a. Rows & Columns
   b. Fields
   c. Database
   d. Records

ii) Which of the following command is a type of Data Definition language command?
   a. Create
   b. Update
   c. Delete
   d. Merge

iii) In a relation database, every tuples divided into the fields are known as the_____.
   a. Queries
   b. Domains
   c. Relations
   d. All of the above

iv) The term "TCL" stands for____.
   a. Ternary Control Language
   b. Transmission Control Language
   c. Transaction Central Language
   d. Transaction Control Language

v) Which of the following is used in the application programs to request data from the database management system?
   a. Data Manipulation language
   b. Data Definition Language
   c. Data Control Language
   d. All of the above

Scanned with OKEN Scanner

Section – B (खण्ड–ब)
Short Answer Questions (लघुउत्तरीय प्रश्न)

2. Answer any five of the following questions in maximum 150 words. **5×7=35**
निम्नलिखित में से किन्हीं पाँच प्रश्नों के उत्तर अधिकतम 150 शब्दों में दें।

i. Explain the Basic concepts of ER models(Diagrams) in DBMS.

ii. Draw the overall structure of DBMS and explain its various components.

iii. Consider the relation R(a,b,c,d) with Set F={a→c, b→d}. Decompose this relation in 2 NF. Explain the Loss Less Decomposition with example

iv. What do you understand by transitive dependencies? Explain with example.

v. List ACID properties of transaction. Explain the usefulness of each.

vi. What do you understand by normalisation. Explain with example.

Section – C (खण्ड–स)
Descriptive Questions (विवरणात्मक प्रश्न)

3. Answer any two of the following question in maximum 300 words. **2×10=20**
निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर अधिकतम 300 शब्दों में दें।

i) What are the different type of Data Models in DBMS explain them.

ii) Describe Armstrong's axioms in detail. What is the role of these rules in database development process?

iii) Student(Rollno. Name, Fathername, Branch)
Book(ISBN, Title, Author, Publisher)
Issue(Rollno, ISBN, Date-of-birth)
Write the following SQL query:

a. List roll number and name of all students of the branch 'CSE'.
b. Find the name of student who has issued a book published by 'ABC'.
c. List title of all book and their authors issued to student 'RAM'.
d. List all books published by publisher 'ABC".

.....

Scanned with OKEN Scanner